

Curriculum Vitae

Zdenko Špitalský, MSc., PhD.

Nationality: Slovak

Affiliation: Polymer Institute

Slovak Academy of Sciences

Dúbravská cesta 9

845 41 Bratislava

Slovakia

Tel.: +421 2 3229 4325

e-mail: zdeno.spitalsky@savba.sk

<http://www.polymer.sav.sk/>

Scientific profiles:

https://www.researchgate.net/profile/Zdenko_Spitalsky

<http://orcid.org/0000-0003-2589-9035>

<https://www.linkedin.com/in/zdeno-spitalsky-80193310>

<https://publons.com/researcher/1350546/zdenko-spitalsky/>

Education:

1998 – 2002 Ph.D. Study in Macromolecular Chemistry, Polymer Institute, Slovak Academy of Sciences, Bratislava, Slovakia

1993 – 1998 MSc. Study in Organic Chemistry, Faculty of Natural Sciences, Comenius University, Bratislava, Slovakia

Long-term Stays Abroad:

2004 – 2006 postdoctoral fellow at Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Prague, Czech Republic; 5th Frame Program fellow – Research Training Network

2007 – 2009 postdoctoral fellow at Institute of Chemical Engineering and High Temperature Chemical Processes - Foundation for Research and Technology, Hellas; Patras, Greece, 6th Frame Program fellow – Marie Curie Host Fellowships for the Transfer of Knowledge

Industrial Research Experience:

Duslo a.s. Sala (Slovakia)

VUTCh – Chemitex Žilina (Slovakia)

Professional Memberships:

Slovak Chemical Society; membership from 2000 – 2006 and from 2016

Board of Young Scientist, Polymer Institute, SAS; membership from 2001 - 2006

NANOFUN (international Network of Excellence); participant 2007-2009

Member of SAS Commission for Communication and Media from 2017

Awards:

- 2014 premium for outstanding scientific response of one paper in the category of natural and medical sciences from the Literary Fund.
- 2015 - Golden Incheba from SLOVMEDICA and NON-HANDICAP 2015 exhibition for Superhydrophobic biodegradable polymeric materials for medicinal applications by Igor Novák and Zdenko Špitalský.
- 2018 - Award of the Presidium of the Slovak Academy of Sciences - Scientific publication with an exceptionally high number of citations.
- 2018 - Premium for outstanding scientific response of one paper in the category technical sciences and geosciences from the Literary Fund.

Participation in selected research projects:

* **VEGA 2/0051/20** „*Polymer Composites for 3D Printing*“ – **PI**

* **M-ERA.Net 2** “*Matrix for carbon reinforced epoxy laminates with reduced flammability*” – **national PI**

* **COST CA 16217** “*European network of multidisciplinary research to improve the urinary stents*“
national **PI**

* **SK-SRB-2016-0038** “*Antibacterial polymeric nanocomposites fibers based on carbon nanomaterials*” -
PI

* **SAS-Pro-1237/02/02** “*Antibacterial polymeric nanocomposites based graphene*” – **Scientist in charge**

* **DS-2016-0021** “*Antibacterial polymeric nanocomposites on the base of carbon nanomaterials*” - **PI**

* **VEGA 2/0093/16** „*Electrically conductive polymer nanocomposites based on the nanostructured graphite*“ - **PI**

* **APVV14-0518** „*Research of the impact of low temperature plasma on increase the surface treatment permanence of textile material using nanosols*“ - **PI**

* **SK-SRB-2013-0044** „*Transparent, electrically conductive polymeric nanocomposites on the base of nanostructured graphite*“ - **PI**

* **Qatar National Research Foundation - NPRP-4-465-2-173** “*New Phase Change materials with Improved Heat Transfer Properties*” – **national PI**

- * **SK-CZ-0174-11** "*Effect of conductivity on dielectric and magnetic properties of hybrid polymer composites*" – **PI**
- * **SK-PT-0012-12** "*Polymer-ceramic nanocomposites for embedded capacitors*" - **PI**
- * **MNT.ERA-Net** "*Applications of polymer nanocomposites with low content of graphene in electronical devices*"- **PI**
- * **7th FP-MC** European Reintegration Grant "*Orientation of Carbon Nanotubes in Polymer Composites*"
PI
- * **6th FP–MC** Host Fellowships for the Transfer of Knowledge „*High Volume Fraction Nanocomposites Incorporating Modified Carbon Nanotube Reinforcements*“
- * **5th FP–** Research Training Network "*New Hybrids Nanocomposites from Functional Nanobuilding Blocks*”
- * **VEGA 2/0119/12** "*Graphene containing polymer nanocomposites for environmental monitoring.*" - **PI**
- * **VÝskum technológií a výrobkov pre INteligentné a TECHnické TEXtílie (VY-INTECH-TEX) - ITMS 26220220134:** *výskum a laboratórne overenie prípravy elektrovodivého nanosólu* – commercial collaboration with industry partner VUTCH- Chemitex Žilina - **PI**

Professional skills:

- Organic synthesis, surface modification of carbon nanoparticles
- Mechanical properties (tensile testing Instron, dynamic mechanical analysis DMA Q800, rheology ARES2000 or AR2000)
- Dielectric properties (Novocontrol Concept 400)
- PC hardware and software (MS Office, Hyperchem)
- 3D printing
- Manuscript and project preparation
- Driving license B

List of Publications:

Patent:

- **ŠPITÁLSKY, Zdenko** - MARKOVIĆ, Zoran M. - KOVÁČOVÁ, Mária. Manufacture method of nanomaterial with antibacterial properties, the material thereof, and its use : Patent Application Publication. Pub. No.:US 2020/0017646 A1. Pub. Date: Jan. 16, 2020. Applicant: Ústav polymérov SAV, Bratislava. Appl. No. 16/490,439. PCT Filed: Feb. 27, 2018. PCT No. PCT/SK2018/050004 Aug. 30, 2019. Int. Cl.: C08J 5/00, C08L 53/02, C08K 9/08, C08I 71/02, C08J 3/28. United States, 2020. 7+3 p.

Registered Utility model:

- 8207 – Polymer composites for 3D printing

Chapter in Book:

1. KRUPA, Igor - PROKEŠ, Jan - KŘIVKA, Ivo - **ŠPITALSKÝ, Zdenko**. Electrically conductive polymeric composites and nanocomposites. In Handbook of Multiphase Polymer Systems. - Chichester, UK : John Wiley and Sons Ltd., 2011, vol. 1, Chapter 11, p. 425 -477. ISBN 978-0-470-71420-1
2. TEIXEIRA, S. S. - GRACA, M. P. F. - DIONISIO, M. - ILČÍKOVÁ, Markéta - MOSNÁČEK, Jaroslav - **ŠPITALSKÝ, Zdenko** - KRUPA, Igor - COSTA, L. C. Electrical properties of lithium ferrite nanoparticles dispersed in a styrene-isoprene-styrene copolymer matrix. In Nanoscience Advances in CBRN Agents Detection, Information and Energy Security : NATO Science for Peace and Security Series A : Chemistry and Biology. - Dordrecht, NL : Springer Netherlands, 2015, chapter 27, P. 273-279. ISBN 978-94-017-9696-5. ISSN 1874-6489.
3. NOVÁK, Igor - POPELKA, Anton - **ŠPITALSKÝ, Zdenko** - KRUPA, Igor - TAVMAN, Sebnem. Polyolefin in Packaging and Food Industry. In Polyolefin Compounds and Materials : Fundamentals and Industrial Applications. - Switzerland : Springer International Publishing, 2016, chapter. 7, P. 181-199. ISBN 978-3-319-25980-2.

Papers:

1. BUDIMIR, Milica** - MARKOVIĆ, Zoran - VAJDAK, Jan - JOVANOVIĆ, Svetlana - KUBAT, Pavel - HUMPOLÍČEK, Petr - MIČUŠÍK, Matej - DANKO, Martin - BARRAS, Alexandre - MILIVOJEVIĆ, Dušan - ŠPITÁLSKY, Zdenko - BOUKHERROUB, Rabah - MARKOVIĆ, Biljana Todorović. Enhanced visible light-triggered antibacterial activity of carbon quantum dots / polyurethane nanocomposites by gamma rays induced pre-treatment. In *Radiation Physics and Chemistry*, 2021, vol. 185, art. no. 109499, [13] p. <https://doi.org/10.1016/j.radphyschem.2021.109499>
2. EVGIN, Tuba** - TURGUT, Alpaslan - HAMAOU, Georges - ŠPITÁLSKY, Zdenko - HORNÝ, Nicolas - LUTFIYE, Altay - CHIRTOC, Mihai - OMASTOVÁ, Mária. Size effect of hybrid carbon nanofillers on the synergetic enhancement of the properties of HDPE-based nanocomposites. In *Nanotechnology*, 2021, vol. 32, art. no. 315704, [13] p. <https://doi.org/10.1088/1361-6528/abf968>
3. GHOSAL, Kajal* - KOVÁČOVÁ, Mária* - HUMPOLÍČEK, Petr - VAJĎÁK, Jan - BODIK, Michal - ŠPITÁLSKY, Zdenko**. Antibacterial photodynamic activity of hydrophobic carbon quantum dots and polycaprolactone based nanocomposite processed via both electrospinning and solvent casting method. In *Photodiagnosis and Photodynamic Therapy*, 2021, vol. 35, art.no. 102455, [9] p. <https://doi.org/10.1016/j.pdpdt.2021.102455>
4. HEIM, Dariusz** - WIEPRZKOWICZ, Anna - KNERA, Dominika - ILOMETS, Simo - KALAMEES, Targo - ŠPITÁLSKY, Zdenko. Towards improving the durability and overall performance of PV-ETICS by application of a PCM layer. In *Applied Sciences-Basel*, 2021, vol. 11, art. no. 4667, [13] p. <https://doi.org/10.3390/app11104667>
5. KOVALCIK, Adriana** - SMILEK, Jiri - MACHOVSKY, Michal - KALINA, Michal - ENEV, Vojtech - DUGOVA, Hana - CERNEKOVA, Nicole - KOVÁČOVÁ, Mária - ŠPITÁLSKY, Zdenko. Properties and structure of poly(3-hydroxybutyrate-co-4-hydroxybutyrate) filaments for fused deposition modelling. In *International Journal of Biological Macromolecules*, 2021, vol. 183, p. 880-889. <https://doi.org/10.1016/j.ijbiomac.2021.04.183>
6. ZMEJKOSKI, Danica Z.** - MARKOVIĆ, Zoran M. - ZDRAVKOVIĆ, Nemanja M. - TRIŠIĆ, Dijana D. - BUDIMIR, Milica D. - KUZMAN, Sanja B. - KOZYROVSKA, Natalia O. - ORLOVSKA, Iryna V. - BUGÁROVÁ, Nikola - PETROVIĆ, Dorde Ž. - KOVÁČOVÁ, Mária - KLEINOVÁ, Angela - ŠPITÁLSKY, Zdenko - PAVLOVIĆ, Vladimir B. - TODOROVIĆ MARKOVIĆ, Biljana M.**. Bactericidal and antioxidant bacterial cellulose hydrogels doped with chitosan as potential urinary tract infection biomedical agent. In *RSC Advances*, 2021, vol. 11, p. 8559-8568. <https://doi.org/10.1039/d0ra10782d>

7. ZMEJKOSKI, Danica Z.** - MARKOVIĆ, Zoran M. - BUDIMIR, Milica D. - ZDRAVKOVIĆ, Nemanja M. - TRIŠIĆ, Dijana D. - BUGÁROVÁ, Nikola - DANKO, Martin - KOZYROVSKA, Natalia O. - ŠPITÁLSKY, Zdenko - KLEINOVÁ, Angela - KUZMAN, Sanja B. - PAVLOVIĆ, Vladimir B. - MARKOVIĆ, Biljana M. Todorović**. Photoactive and antioxidant nanochitosan dots/biocellulose hydrogels for wound healing treatment. In *Materials Science and Engineering C: Materials for Biological Applications, 2021, vol. C 122, art.no. 111925, [11] p.*
<https://doi.org/10.1016/j.msec.2021.111925>
8. KOVÁČOVÁ, Mária - ŠPITÁLSKA, Eva - MARKOVIC, Zoran S. - ŠPITÁLSKY, Zdenko**. Carbon quantum dots as antibacterial photosensitizers and their polymer nanocomposite applications. In *Particle & particle systems characterization, 2020, vol. 37, art. no. 1900348.*
<https://doi.org/10.1002/ppsc.201900348>
9. BODIK, Michal - KOVÁČOVÁ, Mária - BANOVSKA, Sara - ŠPITÁLSKY, Zdenko - HELD, Vladimír - JERGEL, Matej - MAJKOVÁ, Eva - ŠIFFALOVICH, Peter. Uniaxial strengthening of the polyamide film by the aligned carbon nanotubes. In *Materials Today Communications, 2020, vol. 25, art. no. 101432, [5] p.* <https://doi.org/10.1016/j.mtcomm.2020.101432>
10. EVGIN, Tuba - TURGUT, Alpaslan - HAMAOU, Georges - ŠPITÁLSKY, Zdenko - HORNY, Nicolas - MIČUŠÍK, Matej - CHIRTOC, Mihai - SARIKANAT, Mehmet - OMASTOVÁ, Mária. Size effects of graphene nanoplatelets on the properties of high-density polyethylene nanocomposites: morphological, thermal, electrical, and mechanical characterization. In *Beilstein Journal of Nanotechnology, 2020, vol. 11, p. 167-179.* <https://doi.org/10.3762/bjnano.14>
11. KOVÁČOVÁ, Mária - KLEINOVÁ, Angela - VAJĎÁK, Ján - HUMPOLÍČEK, Petr - KUBÁT, Pavel - BODIK, Michal - MARKOVIĆ, Zoran M. - ŠPITÁLSKY, Zdenko**. Photodynamic-active smart biocompatible material for an antibacterial surface coating. In *Journal of Photochemistry and Photobiology. B: Biology, 2020, vol. 211, 112012, [8] p.*
<https://doi.org/10.1016/j.jphotobiol.2020.112012>
12. KOVÁČOVÁ, Mária - KOZAKOVIČOVÁ, Jana - PROCHÁZKA, Michal - JANIGOVÁ, Ivica - VYSOPAL, Marek - ČERNIČKOVÁ, Ivona - KRAJČOVIČ, Jozef - ŠPITÁLSKY, Zdenko**. Novel Hybrid PETG Composites for 3D Printing. In *Applied Sciences-Basel, 2020, vol. 10, no. 9, art. no. 3062, [15] p.* <https://doi.org/10.3390/app10093062>
13. KOVÁČOVÁ, Mária* - BODIK, Michal* - MIČUŠÍK, Matej - HUMPOLÍČEK, Petr - ŠIFFALOVICH, Peter - ŠPITÁLSKY, Zdenko**. Increasing the effectivity of the antimicrobial surface of carbon quantum dots-based nanocomposite by atmospheric pressure plasma. In *Clinical Plasma Medicine, 2020, vol. 19-20, art. no. 100111, [7] p.*
<https://doi.org/10.1016/j.cpme.2020.100111>

14. MARKOVIĆ, Zoran M.** - LABUDOVIĆ, Martina - DANKO, Martin - MATIJAŠEVIĆ, Danka - MIČUŠÍK, Matej - NÁDAŽDY, Vojtech - KOVÁČOVÁ, Mária - KLEINOVÁ, Angela - ŠPITÁLSKY, Zdenko - PAVLOVIĆ, Vladimir - MILIVOJEVIĆ, Dušan D. - MEDIĆ, Mina - TODOROVIĆ MARKOVIĆ, Biljana M.**. Highly Efficient Antioxidant F- and Cl-Doped Carbon Quantum Dots for Bioimaging. In *ACS Sustainable Chemistry & Engineering*, 2020, vol. 8, no. 43, p. 16327-16338. <https://doi.org/10.1021/acssuschemeng.0c06260>
15. MOGHADDASI, Abdolali - SOBOLČIAK, Patrik - POPELKA, Anton - SADASIVUNI, Kishor Kumar - ŠPITÁLSKY, Zdenko - KRUPA, Igor**. Electrically Conductive Electrospun Polymeric Mats for Sensing Dispersed Vegetable Oil Impurities in Wastewater. In *Processes*, 2019, vol. 7, no. 12, art.no. 906, [6] p. <https://doi.org/10.3390/pr7120906>
16. POPELKA, Anton - BHADRA, Jolly - ABDULKAREEM, Asma - KASÁK, Peter - ŠPITÁLSKY, Zdenko - WON JANG, Se - AL-THANI, Noora**. Fabrication of flexible electrically conductive polymer-based micropatterns using plasma discharge. In *Sensors and Actuators A-Physical*, 2020, vol. 301, art.no. 111727, [11] p. <https://doi.org/10.1016/j.sna.2019.111727>
17. PROSTREDNÝ, Martin - KRUPA, Igor - ŠPITÁLSKY, Zdenko**. Preparation and characterization of new electrically conductive composites based on expanded graphite with potential use as remote environmental detectors. In *Processes*, 2020, vol. 8, art. no. 1176, [13] p. <https://doi.org/10.3390/pr8091176>
18. BUDIMIR, Milica - MARKOVIĆ, Zoran - JOVANOVIĆ, Dragana - VUJISIĆ, Miloš - MIČUŠÍK, Matej - DANKO, Martin - KLEINOVÁ, Angela - ŠVAJDLENKOVÁ, Helena - ŠPITÁLSKY, Zdenko - TODOROVIĆ MARKOVIĆ, Biljana. Gamma ray assisted modification of carbon quantum dot/polyurethane nanocomposites: structural, mechanical and photocatalytic study. In *RSC Advances*, 2019, vol. 9, p. 6278-6286.
19. BUGÁROVÁ, Nikola - ŠPITÁLSKY, Zdenko - MIČUŠÍK, Matej - BODIK, Michal - ŠIFFALOVIČ, Peter - KONERACKÁ, Martina - ZÁVIŠOVÁ, Vlasta - KUBOVČÍKOVÁ, Martina - KAJANOVÁ, Ivana - ZAŤOVIČOVÁ, Miriam - PASTOREKOVÁ, Silvia - ŠLOUF, Miroslav - MAJKOVÁ, Eva - OMASTOVÁ, Mária. A multifunctional graphene oxide platform for targeting cancer. In *Cancers*, 2019, vol. 11, iss. 6, art. no. 753, [19] p.
20. EVGIN, Tuba - TURGUT, Alpaslan - ŠLOUF, Miroslav - ŠPITÁLSKY, Zdenko - MIČUŠÍK, Matej - SARIKANAT, Mehmet - NÓGELLOVÁ, Zuzana - NOVÁK, Igor - OMASTOVÁ, Mária. Morphological, electrical, mechanical and thermal properties of high-density polyethylene/multiwall carbon nanotube nanocomposites: effect of aspect ratio. In *Materials Research Express*, 2019, vol. 6, no. 9, art.no. 095079, [13]p.

21. GHOSAL, Kajal - AGATEMOR, Christian - **ŠPITÁLSKY, Zdenko** - THOMAS, Sabu - KNY, Erich. Electrospinning tissue engineering and wound dressing scaffolds from polymer-titanium dioxide nanocomposites. In *Chemical Engineering Journal*, 2019, vol. 358, p. 1262-1278.
22. MARKOVIĆ, Zoran M. - KOVÁČOVÁ, Mária - MIČUŠÍK, Matej - DANKO, Martin - ŠVAJDLENKOVÁ, Helena - KLEINOVÁ, Angela - HUMPOLÍČEK, Petr - LEHOČKÝ, Marian - TODOROVIĆ-MARKOVIĆ, Biljana - **ŠPITÁLSKY, Zdenko**. Structural, mechanical, and antibacterial features of curcumin/polyurethane nanocomposites. In *Journal of Applied Polymer Science*, 2019, vol. 136, art.no. 47283, [8 s.].
23. MARKOVIĆ, Zoran M. - KOVÁČOVÁ, Mária - HUMPOLÍČEK, Petr - BUDIMIR, Milica D. - VAJĎÁK, Jan - KUBÁT, Pavel - MIČUŠÍK, Matej - ŠVAJDLENKOVÁ, Helena - DANKO, Martin - CAPÁKOVÁ, Zdenka - LEHOČKÝ, Marián - MARKOVIĆ, Biljana M. Todorović - **ŠPITÁLSKY, Zdenko**. Antibacterial photodynamic activity of carbon quantum dots / polydimethylsiloxane nanocomposites against Staphylococcus aureus, Escherichia coli and Klebsiella pneumoniae. In *Photodiagnosis and Photodynamic Therapy*, 2019, vol. 26, p. 342-349.
24. MARKOVIĆ, Zoran M.** - JOVANOVIĆ, Svetlana P. - MAŠKOVIĆ, Pavle Z. - MOJSIN, Marija M. - STEVANOVIĆ, Milena J. - DANKO, Martin - MIČUŠÍK, Matej - JOVANOVIĆ, Dragana J. - KLEINOVÁ, Angela - **ŠPITÁLSKY, Zdenko** - PAVLOVIĆ, Vladimir B. - TODOROVIĆ MARKOVIĆ, Biljana M.**. Graphene oxide size and structure pro-oxidant and antioxidant activity and photoinduced cytotoxicity relation on three cancer lines. In *Journal of Photochemistry and Photobiology. B: Biology*, 2019, vol. 200, art.no. 111647, [10] p.
25. PREKODRAVAC, Jovana - VASILJEVIĆ, Bojana - MARKOVIĆ, Zoran M. - JOVANOVIĆ, Dragana - KLEUT, Duška - **ŠPITÁLSKY, Zdenko** - MIČUŠÍK, Matej - DANKO, Martin - BAJUK-BOGDANOVIĆ, Danica - TODOROVIĆ-MARKOVIĆ, Biljana. Green and facile microwave assisted synthesis of (metal-free) N-doped carbon quantum dots for catalytic applications. In *Ceramics International*, 2019, vol. 45, p. 17006-17013.
26. RAJŇÁK, Michal - **ŠPITÁLSKY, Zdenko** - KURIMSKÝ, Juraj - TOMCO, Ladislav - CIMBALA, Roman - KOPČANSKÝ, Peter - TIMKO, Milan. Toward apparent negative permittivity measurement in a magnetic nanofluid with electrically induced clusters. In *Physical Review Applied*, 2019, vol. 11, no. 2, art. no. 024032 [11 s.].
27. SOBOLČIAK, Patrik - TANVIR, Aisha - POPELKA, Anton - **ŠPITÁLSKY, Zdenko** - MRLÍK, Miroslav - KRUPA, Igor. Electrospun copolyamide mats modified by functionalized multiwall carbon nanotubes. In *Polymer Composites*, 2019, vol. 40 iss. S2, p. E1451-E1460.
28. **ŠPITÁLSKY, Zdenko** - RÁSTOČNÁ ILLOVÁ, D. - ŽIGO, Ondrej - MIČUŠÍK, Matej - NÓGELLOVÁ, Zuzana - PROCHÁZKA, Michal - KLEINOVÁ, Angela - KOVÁČOVÁ, Mária -

- NOVÁK, Igor. Assessment of the antibacterial behavior of polyester fabric pre-treated with atmospheric discharge plasma. In *Fibers and polymers*, 2019, vol. 20, no. 8, p. 1649-1657.
29. SZYMCZYK, Anna** - PASZKIEWICZ, Sandra - TYPEK, Janusz - **ŠPITÁLSKY, Zdenko** - JANOWSKA, Izabela - ŽOLNIERKIEWICZ, Grzegorz - GUSKOS, Nikos. Magnetic properties of poly(trimethylene terephthalate-block-poly(tetramethylene oxide) copolymer nanocomposites reinforced by graphene oxide-Fe₃O₄ hybrid nanoparticles. In *Physica Status Solidi A : applications and materials science*, 2019, vol. 216, no. 23, art.no. 1900402, [16] p.
30. TANVIR, Aisha - SOBOLČIAK, Patrik - POPELKA, Anton - MRLÍK, Miroslav - **ŠPITÁLSKY, Zdenko** - MIČUŠÍK, Matej - PROKEŠ, Jan - KRUPA, Igor. Electrically conductive, transparent polymeric nanocomposites modified by 2D Ti₃C₂T_x(MXene). In *Polymers : Open Access Polymer Science Journal*, 2019, vol. 11, art. no. 1272, [19] p.
31. TOSIC, Jelena - STANOJEVIC, Zeljka - VIDICEVIC, Sasenka - ISAKOVIC, Aleksandra - CIRIC, Darko - MARTINOVIC, Tamara - KRAVIC-STEVOVIC, Tamara - BUMBASIREVIC, Vladimir - PAUNOVIC, Verica - JOVANOVIC, Svetlana - TODOROVIC-MARKOVIC, Biljana - MARKOVIĆ, Zoran M. - DANKO, Martin - MIČUŠÍK, Matej - **ŠPITÁLSKY, Zdenko** - TRAJKOVIC, Vladimir. Graphene quantum dots inhibit T cell-mediated neuroinflammation in rats. In *Neuropharmacology*, 2019, vol. 146, p. 95-108.
32. KELNAR, Ivan - KRATOCHVÍL, Jaroslav - KAPRÁLKOVÁ, Ludmila - **ŠPITÁLSKY, Zdenko** - UJČIČ, Massimo - ZHIGUNOV, Alexander - NEVORALOVÁ, Martina. Effect of graphene oxide on structure and properties of impact-modified polyamide 6. In *Polymer - Plastics Technology and Engineering*, 2018, vol. 57, no. 9, p. 827-835
33. KEPIĆ, Dejan P. - RISTIĆ, Ivan S. - MARINOVIĆ-CINCOVIĆ, Milena T. - PERUŠKO, Davor B. - **ŠPITÁLSKY, Zdenko** - PAVLOVIĆ, Vladimir B. - BUDIMIR, Milica D. - ŠIFFALOVIČ, Peter - DRAMIĆANIN, Miroslav D. - MIČUŠÍK, Matej - KLEINOVÁ, Angela - JANIGOVÁ, Ivica - MARKOVIĆ, Zoran M. - TODOROVIĆ MARKOVIĆ, Biljana M. Simple route for the preparation of graphene/poly(styrene-b-butadiene-b-styrene) nanocomposite films with enhanced electrical conductivity and hydrophobicity. In *Polymer International*, 2018, vol. 67, iss. 8, p. 1118-1127.
34. KOVÁČOVÁ, Mária - **ŠPITÁLSKY, Zdenko**. Slovenská stopa v 3D tlači. In *Quark*, 2018, roč. 24, č. 6, s. 44-45.
35. NOVÁK, Igor - VALENTIN, Marian - **ŠPITÁLSKY, Zdenko** - POPELKA, Anton - ŠESTÁK, Jozef - KRUPA, Igor. Superhydrophobic polyester/cotton fabrics modified by barrier discharge plasma and organosilanes. In *Polymer - Plastics Technology and Engineering*, 2018, vol. 57, no. 5, p. 440-448.

36. OSICKA, Josef - MRLIK, Miroslav - ILČÍKOVÁ, Markéta - MUNSTER, Lukas - BAZANT, Pavel - **ŠPITÁLSKY, Zdenko** - MOSNÁČEK, Jaroslav. Light-induced actuation of poly(dimethylsiloxane) filled with graphene oxide grafted with poly(2-(trimethylsilyloxy)ethyl methacrylate). In *Polymers : Open Access Polymer Science Journal*, 2018, vol. 10, art. no. 1059.
37. Špitalská E – **Špitalský Z** – Markovič Z – Štefanidesová K – Škultéty L. Rickettsiacidal effect of photodynamic therapy. *Photodiagnosis and Photodynamic Therapy*, 2018, vol. 24, p. 150-152.
38. KOVACOVA, Maria - MARKOVIC, Zoran - HUMPOLICEK, Petr - MICUSIK, Matej - ŠVAJDLENKOVA, Helena - KLEINOVA, Angela - DANKO, Martin - KUBÁT, Pavel - VAJDAK, Jan - CAPAKOVA, Zdenka - LEHOCKÝ, Marián - MUNSTER, Lukas - TODOROVIC MARKOVIĆ, Biljana - **SPITALSKY, Zdenko**. Carbon Quantum Dots Modified Polyurethane Nanocomposites as Effective Photocatalytic and Antibacterial Agents. *ACS Biomaterials Science & Engineering*, 2018, vol. 4, p. 2983-3993.
39. MARKOVIĆ, Zoran M. - JOVANOVIĆ, Svetlana P. - MAŠKOVIĆ, Pavle Z. - DANKO, Martin - MIČUŠÍK, Matej - PAVLOVIĆ, Vladimir B. - MILIVOJEVIĆ, Dušan D. - KLEINOVÁ, Angela - **ŠPITÁLSKY, Zdenko** - TODOROVIC MARKOVIĆ, Biljana M. Photo-induced antibacterial activity of four graphene based nanomaterials on a wide range of bacteria. *RSC Advances*, 2018, vol. 8, p. 31337-31347.
40. ŠPITÁLSKA, Eva - SPARAGANO, Olivier - STANKO, Michal - SCHWARZOVÁ, Katarína - **ŠPITÁLSKY, Zdenko** - ŠKULTÉTY, Ľudovít - FUMAČOVÁ HAVLÍKOVÁ, Sabina. Diversity of Coxiella-like and Francisella-like endosymbionts, and Rickettsia spp., Coxiella burnetti as pathogens in the tick populations of Slovakia, Central Europe. *Ticks and Tick-Borne Diseases*, 2018, vol. 9, p. 1207-1211.
41. STANKOVIĆ, Nenad K. - BODIK, Michal - ŠIFFALOVIC, Peter - KOTLAR, Mario - MIČUŠÍK, Matej - **ŠPITÁLSKY, Zdenko** - DANKO, Martin - MILIVOJEVIĆ, Dušan D. - KLEINOVÁ, Angela - KUBAT, Pavel - CAPAKOVA, Zdenka - HUMPOLICEK, Petr - LEHOCKY, Marian - TODOROVIC MARKOVIĆ, Biljana M. - MARKOVIĆ, Zoran M. Antibacterial and antibiofouling properties of light triggered fluorescent hydrophobic carbon quantum dots langmuir-blodgett thin films. *ACS Sustainable Chemistry & Engineering*, 2018, vol. 6, p. 4154-4163.
42. BODIK, Michal - ZAHORANOVÁ, Anna - MIČUŠÍK, Matej - BUGÁROVÁ, Nikola - **ŠPITÁLSKY, Zdenko** - OMASTOVÁ, Mária - MAJKOVÁ, Eva - JERGEL, Matej - ŠIFFALOVIC, Peter. Fast low-temperature plasma reduction of monolayer graphene oxide at atmospheric pressure. In *Nanotechnology*, 2017, vol. 28, art.no. 145601.
43. MARKOVIĆ, Zoran M. - MATIJAŠEVIĆ, Danka M. - PAVLOVIĆ, Vladimir B. - JOVANOVIĆ, Svetlana P. - HOLCLAJTNER-ANTUNOVIĆ, Ivanka D. - **ŠPITÁLSKY, Zdenko** - MIČUŠÍK,

- Matej - DRAMIĆANIN, Miroslav D. - MILIVOJEVIĆ, Dušan D. - NIKŠIĆ, Miomir P. - TODOROVIĆ MARKOVIĆ, Biljana M. Antibacterial potential of electrochemically exfoliated graphene sheets. In *Journal of Colloid and Interface Science*, 2017, vol. 500, p. 30-43.
44. MARKOVIĆ, Zoran M. - KEPIĆ, D.P. - MATIJAŠEVIĆ, D.M. - PAVLOVIĆ, V.B. - JOVANOVIĆ, S.P. - STANKOVIĆ, N.K. - MILIVOJEVIĆ, D.D. - **ŠPITALSKY, Zdenko** - HOLCLAJTNER-ANTUNOVIĆ, I.D. - BAJUK-BOGDANOVIĆ, D.V. - NIKŠIĆ, M.P. - TODOROVIĆ-MARKOVIĆ, B.M. Ambient light induced antibacterial action of curcumin/graphene nanomesh hybrids. In *RSC Advances*, 2017, vol. 7, p. 36081-36092.
45. Kostiuk, D., Bodik, M., Siffalovic, P., Jergel, M., Halahovets, Y., Hodas, M., Pelletta, M., Pelach, M., Hulman, M., **Spitalsky, Z.**, Omastova, M., Majkova, E. Reliable determination of the few-layer graphene oxide thickness using Raman spectroscopy (2016) *Journal of Raman Spectroscopy*, 47 (4), pp. 391-394.
46. Paunovic, V., Ristic, B., Markovic, Z., Todorovic-Markovic, B., Kosic, M., Prekodravac, J., Kravic-Stevovic, T., Martinovic, T., Micusik, M., **Spitalsky, Z.**, Trajkovic, V., Harhaji-Trajkovic, L. c-Jun N-terminal kinase-dependent apoptotic photocytotoxicity of solvent exchange-prepared curcumin nanoparticles (2016) *Biomedical Microdevices*, 18 (2), art. no. 37
47. Z.M.Makovic, M.D. Budimir, D.P.Kepic, I.D.Holelajtner-Antunovic, M.T. Marinovic-Cincovic, M.D. Dramicanin, V.D. Spasojevic, D.B. Peruško, **Z.Špitalský**, M. Mičušík, V.B. pavlovič, B.M.Todorovič-Markovič. Study of semi-transparent, conductive thin films of electrochemical exfoliated graphene, *RSC-Advanced*, 2016, vol. 6, p. 39275-39283.
48. MRLÍK, Miroslav - ILČÍKOVÁ, Markéta - PLACHÝ, Tomáš - PAVLÍNEK, Vladimír - **ŠPITALSKÝ, Zdenko** - MOSNÁČEK, Jaroslav. Graphene oxide reduction during surface initiated atom transfer radical polymerization of glycidyl methacrylate: Controlling electro-responsive properties. In *Chemical Engineering Journal*, 2016, vol. 283, p. 717-720.
49. Svetlana Jovanovic - Zoran Markovic - Milica Budimir - **Zdenko Spitalsky** - Bojan Vidoeski - Biljana Todorovic Markovic. Effects of low gamma irradiation dose on the photoluminescence properties of graphene quantum dots. *Opt Quant Electron* (2016) 48:2599.
50. ILČÍKOVÁ, Markéta - MRLÍK, M. - **ŠPITALSKÝ, Zdenko** - MIČUŠÍK, Matej - CSOMOROVÁ, Katarína - SASINKOVÁ, V. - KLEINOVÁ, Angela - MOSNÁČEK, Jaroslav. A tertiary amine in two competitive processes: Reduction of graphene oxide vs. catalysis of atom transfer radical polymerization. In *RSC Advances*, 2015, vol. 5, p. 3370-3376
51. KRUPA, Igor - NÓGELLOVÁ, Zuzana - **ŠPITALSKÝ, Zdenko** - MALÍKOVÁ, Marta - SOBOLČIAK, Patrik - ABDELRAZEQ, H. W. - OUEDERNI, Mabrouk - KARKRI, M. - JANIGOVÁ, Ivica - AL-MAADEED, M. A. S. A. Positive influence of expanded graphite on the

- physical behavior of phase change materials based on linear low-density polyethylene and paraffin wax. In *Thermochimica Acta*, 2015, vol. 614, p. 218-225.
52. MOSNÁČKOVÁ, Katarína - **ŠPITALSKÝ, Zdenko** - KULIČEK, Jaroslav - PROKEŠ, J. - SKARMOUTSOU, A. - CHARITIDIS, C. A. - OMASTOVÁ, Mária. Influence of preparation methods on the electrical and nanomechanical properties of poly(methyl methacrylate)/multiwalled carbon nanotubes composites. In *Journal of Applied Polymer Science*, 2015, vol. 132, no.13, art.no. 41721.
53. NOVÁK, Igor - POPELKA, Anton - **ŠPITALSKÝ, Zdenko** - MIČUŠÍK, Matej - OMASTOVÁ, Mária - VALENTIN, Marian - SEDLIČIK, J. - JANIGOVÁ, Ivica - KLEINOVÁ, Angela - ŠLOUF, Miroslav. Investigation of beech wood modified by radio-frequency discharge plasma. In *Vacuum*, 2015, vol. 119, p. 88-94.
54. SZYMCZYK, A. - PASZKIEWICZ, S. - PAWELEC, I. - LISIECKI, S. - JOTKO, M. - **ŠPITALSKÝ, Zdenko** - MOSNÁČEK, Jaroslav - ROSLANIEC, Z. Oxygen barrier properties and melt crystallization behavior of poly(ethylene terephthalate)/graphene oxide nanocomposites. In *Journal of Nanomaterials*, vol. 2015, art ID 382610, 10 p.
55. **ŠPITALSKÝ, Zdenko** - KRATOCHVÍLA, Ján - CSOMOROVÁ, Katarína - KRUPA, Igor - GRACA, M. P. F. - COSTA, L. C. Mechanical and electrical properties of styrene-isoprene-styrene copolymer doped with expanded graphite nanoplatelets. In *Journal of Nanomaterials*, vol. 2015, art ID 168485, 9 p.
56. PASZKIEWICZ, S. - PAWELEC, I. - SZYMCZYK, A. - **ŠPITALSKÝ, Zdenko** - MOSNÁČEK, Jaroslav - KOCHMANSKA, A. - ROSLANIEC, Z. Effect of exfoliated graphite nanoplatelets' size on the phase structure, electrical, and barrier properties of poly(trimethylene terephthalate)-based nanocomposite. In *Polymer Engineering and Science*, 2015, vol. 55, p. 2222-2230.
57. PASZKIEWICZ, S. - NACHMAN, M. - SZYMCZYK, A. - **ŠPITALSKÝ, Zdenko** - MOSNÁČEK, Jaroslav - ROSLANIEC, Z. Influence of expanded graphite (EG) and graphene oxide (GO) on physical properties of PET based nanocomposites. In *Polish journal of chemical technology*, 2014, vol.16, no.4, p. 45-50.
58. VALENTOVÁ, H. - ILČÍKOVÁ, Markéta - CZANIKOVÁ, Klaudia - **ŠPITALSKÝ, Zdenko** - ŠLOUF, M. - NEDBAL, J.- OMASTOVÁ, Mária. Dynamic mechanical and dielectric properties of ethylene vinyl acetate/carbon nanotube composites. In *Journal of Macromolecular Science : Part B: Physics*, 2014, vol. 53, no. 3, p. 496-512.
59. TEIXEIRA, S. S. - GRACA, M. P. F. - DIONISIO, M. - ILČÍKOVÁ, Markéta - MOSNÁČEK, Jaroslav - **ŠPITALSKÝ, Zdenko** - KRUPA, Igor - COSTA, L.C. Self-standing elastomeric

- composites based on lithium ferrites and their dielectric behavior. In *Journal of Applied Physics*, 2014, vol. 116, art.no. 224102 [8p].
60. PASZKIEWICZ, S. - SZYMCZYK, A. - **ŠPITALSKÝ, Zdenko** - MOSNÁČEK, Jaroslav - KWIATKOWSKI, K. - ROSLANIEC, Z. Structure and properties of nanocomposites based on PTT-block-PTMO copolymer and graphene oxide prepared by in situ polymerization. In *European Polymer Journal*, 2014, vol. 50, p. 69-77.
61. MRLÍK, M. - MOUČKA, R. - ILČÍKOVÁ, Markéta - BOBER, P. - KAZANTSEVA, N. - **ŠPITALSKÝ, Zdenko** - TRCHOVÁ, M. - STEJSKAL, J. Charge transport and dielectric relaxation processes in aniline-based oligomers. In *Synthetic Metals*, 2014, vol.192, p. 37-42.
62. KRUPA, Igor - PROSTREDNÝ, M. - **ŠPITALSKÝ, Zdenko** - KRAJČI, Juraj - ALMAADEED, M. A. S. Electrically conductive composites based on an elastomeric matrix filled with expanded graphite as a potential oil sensing material. In *Smart Materials & Structures*, 2014, vol. 23, art. no. 125020 [9p].
63. KRUPA, Igor - NÓGELLOVÁ, Zuzana - **ŠPITALSKÝ, Zdenko** - JANIGOVÁ, Ivica - BOH, B. - SUMIGA, B. - KLEINOVÁ, Angela - KARKRI, M. - ALMAADEED, M. A. Phase change materials based on high-density polyethylene filled with microencapsulated paraffin wax. In *Energy Conversion and Management*, 2014, vol. 87, p. 400-409.
64. KRAJČI, Juraj - **ŠPITALSKÝ, Zdenko** - CHODÁK, Ivan. Relationship between conductivity and stress-strain curve of electroconductive composite with SBR or polycaprolactone matrices. In *European Polymer Journal*, 2014, vol. 55, p. 135-143.
65. PASZKIEWICZ, S. - SZYMCZYK, A. - **ŠPITALSKÝ, Zdenko** - MOSNÁČEK, Jaroslav - JANUS, E. - ROSLANIEC, Z. Wpływ dodatku ekspandowanego grafitu (EG) na przebieg syntezy i charakterystykę poli(tereftalanu etylenu) modyfikowanego 1,4-cykloheksanodimetanolem (PETG). In *POLIMERY-W*, 2013, vol. 58, nr. 11 - 12, p. 893 - 899.
66. MOUČKA, R. - MRLIK, M. - ILČÍKOVÁ, Markéta - **ŠPITALSKÝ, Zdenko** - KAZANTSEVA, N. - BOBER, P. - STEJSKAL, J. Electrical transport properties of poly(aniline-co-p-phenylenediamine) and its composites with incorporated silver particles. In *Chemical Papers*, 2013, vol. 67, no. 8, p. 1012 - 1019.
67. Paszkiewicz S., Szymczyk A., Soccio M., Mosnacek J., **Spitalsky Z.**, Ezquerro T.A., Roslaniec Z.: Electrical conductivity of poly(ethylene terephthalate)/expanded graphite nanocomposites prepared by in situ polymerization, *Journal of Polymer Science, Part B: Polymer Physics* 2012; 50 (23) , pp. 1645-1652
68. K. Czaniková, **Z. Špitalský**, I. Krupa, M. Omastová, Electrical and Mechanical Properties of Ethylene Vinyl Acetate Based Composites, *Materials Science Forum* 2012; 714, pp.193-199

69. S. Paskiewicz, Z. Roslaniec, A. Szymczyk, **Z. Spitalsky**, J. Mosnacek, Morphology and Thermal Properties of Expanded Graphite (EG)/Poly(ethylene terephthalate) (PET) Nanocomposites, *CHEMIK*, 2012; 66, 1, pp. 21-30
70. **Špitalský, Z.**, Danko, M., Mosnáček, J., Preparation of Functionalized Graphene Sheets, *Current Organic Chemistry* 2011; 15 (8), pp. 1133-1150
71. Lobotka, P., Kunzo, P. , Kovacova, E. , Vavra, I. , Krizanova, Z., Smatko, V. , Stejskal, J. , Konyushenko, E.N. , Omastova, M., **Spitalsky, Z.**, Micusik, M., Krupa, I., Thin polyaniline and polyaniline/carbon nanocomposite films for gas sensing, *Thin Solid Films* 2011; 519 (12), pp. 4123-4127
72. Moraitis, G., **Špitalský, Z.**, Ravani, F., Siokou, A., Galiotis, C., Electrochemical oxidation of multi-wall carbon nanotubes, *Carbon* 2011; 49 (8), pp. 2702-2708
73. Kratochvíla, J., Krupa, I., **Špitalský, Z.**, Prokeš, J., Mechanical and electrical properties of composites based on low density polyethylene and expanded graphite, *Chemické Listy* 105 (15 SPEC. ISSUE), pp. s352 (2011)
74. Moraitis, G., **Špitalský, Z.**, Ravani, F., Siokou, A., Galiotis, C., Electrochemical oxidation of multi-wall carbon nanotubes, *Carbon* 49 (8), pp. 2702-2708 (2011)
75. **Z. Spitalsky**, S. N. Georga, C. A. Krontiras, C. Galiotis, Dielectric spectroscopy and tunability of multi-walled carbon nanotube / epoxy resin composites, *Advanced Composite Letters* 16, p. 179-189 (2010)
76. **Z. Spitalsky**, D. Tasis, K. Papagelis, C. Galiotis, Carbon nanotube–polymer composites: Chemistry, processing, mechanical and electrical properties, *Progress in Polymer Science* 35, p. 357-401 (2010)
77. **Z. Spitalsky**, G. Tsoukleri, D. Tasis, C. Krontiras, S. N. Georga, C. Galiotis, High volume fraction carbon nanotube – epoxy composites, *Nanotechnology* 20, p. 405702 (7pp) (2009)
78. **Z. Spitalsky**, C. Aggelopoulos, G. Tsoukleri, C. Tsakiroglou, J. Parthenios, S. Georga, C. Krontiras, D. Tasis, K. Papagelis, C. Galiotis, The effect of oxidation treatment on the properties of multi-walled carbon nanotube thin films, *Material Science and Engineering B* 165, p. 135-138 (2009)
79. **Z. Spitalsky**, C.A. Krontiras, S.N. Georga, C. Galiotis, Effect of oxidation treatment of multiwalled carbon nanotubes on the mechanical and electrical properties of their epoxy composites, *Composites A* 40, p. 778-783 (2009)
80. **Z. Spitalsky**, L. Matejka, M. Slouf, E.N. Konyushenko, J. Kovarová, J. Zemek, J. Kotek, Modification of Carbon Nanotubes and Its Effect on Properties of Carbon Nanotube/Epoxy Nanocomposites, *Polymer Composites* 30, p. 1378-1387 (2009)

81. **Z. Spitalsky**, A. Kromka, L. Matejka, P. Cernoch, J. Kovarova, J. Kotek, M. Slouf, Effect of nanodiamond particles on properties of epoxy composites, *Advanced Composite Letters* 17, p. 29-34 (2008)
82. **Z. Spitalsky**, I. Lacik, E. Lathova, I. Janigova, I. Chodak, Controlled degradation of polyhydroxybutyrate via alcoholysis with ethylene glycol or glycerol, *Polymer Degrad. and Stability*, 91, p. 856-861 (2006)
83. **Z. Spitalsky**, T. Bleha, Elastic properties of polyhydroxybutyrate molecules, *Macromol. Bioscience*, 4, p. 601-609 (2004)
84. **Z. Spitalsky**, T. Bleha, Elastic module of highly stretched tie molecules in solid polyethylene, *Polymer*, 44, p. 1603-1611 (2003)
85. **Z. Spitalsky**, T. Bleha, P. Cifra, Energy elasticity of tie molecules in semicrystalline polymers, *Macromol. Theory Simul.*, 11, p.513-524 (2002)
86. **Z. Spitalsky**, T. Bleha, Energetics of stretching of conformational defects in extended polymethylene chains, *Macromol. Theory Simul.*, 10, p. 833-841 (2001)
87. **Z. Spitalsky**, T. Bleha, Modelling of stress transfer and modulus of elasticity in interlamellar phase of polymers, *Chem. Listy*, S94, p. 1015 (2000)